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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/771,545
Filing Date: February 05, 2004
Appellant(s): RAGHAVAN ET AL.

Kenneth Fafrak
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/16/08 appealing from the Office action mailed 12/14/07 and 2/28/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

7,305,331	Allen et al.	12-2007
6,836,569	Le Pennec et al.	12-2004
6,210,967	Bard	4-2001
5,003,497	Priem	3-1991

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 101

1. Claim 41is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 41 is drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claim 41, while defining a computer program, does not define a "computer-readable medium" and is thus non-statutory for that reasons. A computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to correspond to a "computer-readable medium storing a computer program" in order to make the claim statutory.

"In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." - MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5,7-11,13-21,23-38 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Allen et al. (US Patent 7,305,331 B2).

Regarding claim 1, Allen discloses a computer-implemented method of dynamically modeling and displaying a passage of material or information between at least two spatially distributed objects in a body, comprising:

a) creating a first data set of entities ("elements" in col. 3, line 47) between which material (corresponding to "physical interactions" in col. 3, line 46) or information is transferred (via a "pathways" in col. 3, line 46);

b) creating a second data set of channels (said pathways) connecting the entities;

c) creating a third data set of types of material (one of which is said physical interaction) or information that each entity transfers via each channel;

d) creating a dynamic map (or "Dynamic Pathway" as shown in fig. 15) that includes

a list (shown in the upper right of fig. 15) of active entities, wherein the dynamic map is communicatively coupled (as shown in fig. 15) to the active entities so as to provide information (corresponding to said list in the upper right of fig. 15) thereto;

e) using the dynamic map in conjunction with the first, second, and third data sets to perform a simulation (via fig. 1A,num. 10) of the transfer of material or information between entities; and

f) outputting the simulation results (to fig. 1, num. 70).

Regarding claim 2, Allen discloses the method of claim 1, wherein at least one spatially distributed object (or said element) represents at least one of a group selected from: a tissue (or a molecule from "molecular physical interactions" in col. 3, line 46) of the body; and an organ of the body.

Regarding claim 3, Allen discloses the method of claim 1, wherein at least one spatially distributed object represents a device (or drug from "pharmaceutical therapies" in col. 3, line 52) used for medical intervention.

Regarding claim 4, Allen discloses the method of claim 1, wherein at least one spatially distributed object represents a material (or corresponding disease to said drug of claim 3, above) introduced into the body by accident.

Claim 5 is rejected the same as claim 4. Thus, argument similar to that presented above for claim 4 is equally applicable to claim 5.

Regarding claim 7, Allen discloses the method of claim 1, wherein at least one spatially distributed object is represented as having a spatial form (as shown in fig. 10A as a circle) and points of contact (represented as arrows in fig. 10A) with other objects.

Regarding claim 8, Allen discloses the method of claim 7, wherein at least one spatially distributed object has a geometrical description of a three-dimensional form ("three-dimensional" in col. 5, lines 61,62).

Claims 9 and 10 are rejected the same as claim 8. Thus, argument similar to that presented above for claim 8 is equally applicable to claims 9 and 10.

Claim 11 is rejected the same as claim 7. Thus, argument similar to that presented above for claim 7 is equally applicable to claim 11.

Regarding claim 13, Allen discloses the method of claim 1, wherein at least one spatially distributed object contains a numerical description (fig. 11:Elaspsed Time) of the condition of the at least one spatially distributed object.

Regarding claim 14, Allen discloses the method of claim 13, wherein the numerical description comprises lesions (or said diseases) of medically recognized types in a tissue represented by the at least one spatially distributed object.

Claim 15 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claim 15.

Regarding claim 16, Allen discloses the method of claim 1, wherein a signal passed between a first spatially distributed object and a second spatially distributed object depends upon the internal state (as indicated by a label in fig. 15: JNK1) of the first spatially distributed object and the second spatially distributed object (both of which are represented in the circle of fig. 11), and upon an algorithmic specification (as shown in fig. 10B) characterizing the transfer capacity (or "amount of mRNA" in col. 9, line 5) between the first spatially distributed object and the second spatially distributed object.

Claims 17-19 are rejected the same as claim 16. Thus, argument similar to that presented above for claim 16 is equally applicable to claims 17-19.

Regarding claim 20, Allen discloses the method of claim 1, wherein a subset (fig. 15,num. 5120) of the at least one spatially distributed object, at least one algorithm (fig. 13,num. 5100) governing the evolution (as shown in fig. 14) of an internal state of the at least one spatially distributed object, and at least one passed signal are constructed by the user (corresponding to fig. 13: User Name) and connected to a digital implementation of the method by programming means (corresponding to fig. 13) provided with the digital implementation of the method.

Regarding claim 21, Allen discloses the method of claim 1, wherein at least one spatially distributed object (fig. 14: MEKK1) is grouped as a different spatially distributed object (corresponding to the tree structure of fig. 14 that is grouped with other kinds of objects), and at least one algorithm (corresponding to fig. 13,num. 5100) associated with the different spatially distributed object is run on data associated with the different spatially distributed object to approximate the effect (or interaction represented in fig. 14) of the at least one algorithm on the data associated with the at least one spatially distributed objects.

Regarding claim 23, Allen discloses the method of claim 1, wherein a geometrical description (or a circle corresponding to MEKK1 in fig. 14) may be modified (to a square in fig. 14) individually to better match a corresponding entity (corresponding to "Phosphorylation" in fig. 14) in a particular subject to create a new hypothetical example.

Regarding claim 24 Allen discloses the method of claim 1, further comprising:

a) specifying the condition (fig. 18,num. 5154) of at least one spatially distributed object;

b) running at least one associated algorithm (fig. 18, num. 5151); and

c) reporting the results (via fig. 18,num. 5158).

Regarding claim 25, Allen discloses the method of claim 1, further comprising: a) specifying an initial condition (via fig. 18,num. 5154) of at least one spatially distributed object;

b) running at least one associated algorithm (fig. 18,num. 5157) while continuing to intervene (represented as a highlight in the upper left of fig. 9) in the state of the at least one spatially distributed object in real-time (since fig. 9 corresponds to a said Elapsed Time in fig. 11); and

c) observing results.

Regarding claim 26, Allen discloses the method of claim 1, further comprising: a) running at least one associated algorithm (fig. 1A,num. 10) on a system that resides on a central server (fig. 1A,num. 5); and

b) having a user (fig. 1A,num. 20) issue modification and simulation commands over the Internet which are executed on the central server.

Regarding claim 27, Allen discloses the method of claim 1, further comprising: a) having a user obtain standard system data (fig. 41: "Has Attributes"); and b) having the user issue modification (fig. 41: "Modifies Attributes") and simulation commands that are executed on a computer.

Claim 28 is rejected the same as claim 8. Thus, argument similar to that

presented above for claim 8 is equally applicable to claim 28.

Regarding claim 29, Allen discloses the method of claim 28, where the three-dimensional graphical image is color-coded (as shown by the legend in the upper right of fig. 15).

Claim 30 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claim 30.

Regarding claim 31, Allen discloses the method of claim 24, where a second program (fig. 18,num. 5160) issues modification and simulation commands and receives data (via fig. 18,num. 5161) describing the results of system computations as input for further computations (or more searching via fig. 18,num. 5161) by said second program.

Claim 32 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 32.

Regarding claim 33, Allen discloses the method of claim 1, wherein the library data set (fig. 1A,num. 80) further maintains interaction types and characteristic times for each interaction type.

Regarding claim 34, Allen discloses the method of claim 1, further comprising:

a) enabling a user to input initial conditions (via fig. 18,num. 56151) for the entities between which material or information is transferred, and

b) wherein performing the simulation includes using the initial conditions as part of the simulation (said a login is required for the simulation).

Claim 35 is rejected the same as claim 31. Thus, argument similar to that presented above for claim 31 is equally applicable to claim 35.

Regarding claim 36, Allen discloses the method of claim 1, further comprising: a) creating a data set (corresponding to fig. 18,num. 5158) of the response of each entity to material or information received via each channel.

Regarding claim 37, Allen discloses the method of claim 36, wherein creating a data set of the response includes transfer of the same or other material or information to other entities via said channels (via said tree structure in fig. 14 that transfers MEKK1 along the branches of the tree structure).

Claim 38 is rejected the same as claim 37. Thus, argument similar to that presented above for claim 37 is equally applicable to claim 38.

Claim 41 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 41 except for the additional limitation of a medium as disclosed in Allen in fig. 1A.num. 80.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US Patent 7,305,331 B2) in view of Bard (US Patent 6,210,967 B1).

Regarding claim 6, Allen teaches the method of claim 6 1, wherein at least one spatially distributed object (or "drug" in col. 41, line 65) represents material introduced into the body, but

does not each the claimed "cosmetic purposes." However, Allen teaches "drug design" in col. 41, line 65.

Bard teaches "drug design" in col. 1, line 40 for "cosmetic uses" in col. 1, lines 46,47.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Allen's teaching of drug design with Bard's teaching drug design with cosmetic uses, because Bard's cosmetic uses prevents "abnormal growths or scarring" in col. 1, lines 47,48.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US Patent 7,305,331 B2) in view of Le Pennec et al. (US Patent 6,836,569 B2).

Regarding claim 12, Allen teaches the method of claim 7, wherein at least one spatially distributed object (or said molecule) has a geometrical description (or said circle). Allen does not teach the claimed "one-dimensional curve," but teaches "how an object will move" in col. 29, line 9.

Le Pennec teaches a motion of an object or trajectory that is one-dimensional on a two-dimensional plane as shown in fig. 2., num. 1.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Allen's teaching of objection motion with Le Pennec's trajectory of objects, because Le Pennec's teaching provides a "stable foveal representation (col. 3, lines 66 to col. 4, line 1)" of the one dimensional signal or trajectory.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US Patent 7,305,331 B2) in view of Priem (US Patent 5,003,497).

Regarding claim 22, Allen teaches the method of claim 1, wherein a geometrical description (fig. 15,num. 5120) is modified (via "navigate" in col. 5, line 63), but does not teach the claimed "by a global transformation specifying a correspondence between a reference coordinate space of the method and a coordinate space appropriate to a particular subject". However, Allen teaches that a three-dimensional object can be viewed from "different vantage points and perspectives" in col. 5, line 67.

Priem teaches viewing three-dimensional objects on a two-dimensional screen using the claimed global transformation (using a "viewing transforms" in col. 1, line 47 specifying a correspondence between a reference coordinate space (or a "view reference coordinate system" in col. 1, line 43) of the method and a coordinate space appropriate to a particular subject (or "world coordinate system" in col. 1, line 42).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Allen's teaching of different vantage points and perspectives with Priem's teaching of viewing transforms, because Priem's teaching is "well known" in col. 1, line 38.

(10) Response to Argument

Response to Arguments

Appellant's arguments filed 6/16/08 have been fully considered but they are not persuasive.

102(e) claims 1 and 41:

Appellants state that Allen does not disclose the step of creating a dynamic map.

The examiner disagrees since Allen teaches using a "dynamic graphical display…with...pathways…created…" in col. 5, lines 57-59 which is a display as shown in figures 11 and 15 with pathways created on the display is a description of the claimed creating a dynamic map.

Appellants state that it is not seen how Fig. 15 shows a map communicatively coupled to active entities.

The examiner understands fig. 15 to be an animation representing a "map" in col. 5, line 53 as shown in fig. 10A and 14 where the map shows "active" entities such as "active GTP-bound heterotrimeric Gs protein" that can be animated in fig. 15.

Appellants state that no mention is made with regard to the text in the upper right hand corner of fig. 15 nor are any pathways expressly identified.

The examiner disagrees since fig. 15:"Dynamic Pathway" has a corresponding "Textual Pathway" as shown in figures 16 and 17 wherein fig. 16 shows the text that describes a reaction and a "pathway…[with]…endpoints" in col. 21, lines 18-21 where the pathway can branch to other endpoints thus creating other pathways as fig. 14 shows.

Appellants state that the abbreviations in the upper right corner of fig. 15 are not mentioned as active entities.

The examiner disagrees since the abbreviations participate in a reaction as fig. 14 shows "MKK4[+] JNK2" in a phosphoryates reaction; thus, JNK2 is reasonably active.

Appellants state that Allen does not describe creating a dynamic map that includes a list of active entities, wherein the dynamic map is communicatively coupled to the active entities so as to provide information thereto.

The examiner disagrees since Allen does describe creating a dynamic map by creating a pathway corresponding to a "map" in col. 5, lines 52-54 that is coupled to an animation in figures 11 or 15 that shows active entities or elements as shown in fig. 11 as "active PKA" so as to provide information that helps communicate features in the pathway to a viewer looking at the display of the animation.

Appellants state that no mention is found that these biochemical pathways include a list of active entities.

The examiner disagrees since the biochemical pathways one of which is shown in fig 15 that shows JNK1 that binds with ELK-1 as fig. 16 indicates: "Inactive JNK1 Binds to Elk1."

While JNK1 is called inactive, JNK1 is still active since JNK1 can bind which is a form of being active.

In addition, another pathway is shown in fig. 11: "Dynamic Pathway" that shows a list in the upper left corner that has at least three active entities: "active PKA", "active PLC-beta", and "active adc…cyclase".

Appellants state that Allen has not been shown to disclose a first data set of entities.

The examiner disagrees since Allen discloses a first data set of entities or elements as shown in fig. 6F:4020 that shows a list of reactants.

Appellants state that Allen does not create a data set that includes entities between which information is transferred.

The examiner disagrees since Allen has a data set as shown in fig. 6F:4020 that is a set of reactants between which information is transferred as shown in fig. 9: "GTP-bound heterotrimeric Gs protein dissociates into GTP-Gs-alpha and G(beta/gamma)s… GTP-Gs-alpha binds to and activates adenylyl cyclase" where GTP-bound heterotrimeric Gs protein is one item

from the data set that dissociates via a "Dissociation Constant" in fig. 40 and transfers dissociated GTP-Gs-alpha via the mobility attribute in fig. 6F:4030 to bind to adenylyl cyclase which is another item from the set.

In addition, a form of transfer of information between entities is shown in fig. 14 that shows a "Static Pathway" where MEKK1 that is one entity corresponds to fig. 8A: "starting…point" and "ikB-A[P1]/NFkB" in the upper right corner of fig. 14 corresponds to another entity between which information travels in the Static Pathway such as MEKK1 that transfers as shown by the arrows to the point of the path that has "MEKK1[+] IKK-Beta." Thus, MEKK1 transfers between the entities.

Appellants state that in view of the advisory action, Allen does not disclose creating a first data set of entities which information is transferred.

The examiner disagrees since two points as discussed in the text of fig. 8A: "staring and ending points" can be a set of two points where information is transferred between the two points such as a reactant with a mobility attribute of fig. 6F:4030 including a velocity constant as shown in fig. 40 as "Vmax" that moves between the points.

Appellants state in view of the advisory action that it is not seen how a point on a pathway pertains to an entity.

The examiner understands a point such as a stating point or stimulus to describe the required conditions for a reaction to occur. Fig. 14 shows MEKK1 as the claimed entity as the starting point or stimulus for the reaction to occur. If MEKK1 is not present then the reaction or cascade of reactions will not start.

Appellants state that Allen makes no mention of creating a data set of start points and endpoints.

The examiner agrees since fig. 8B that states "Choose a Pathway Stimulus" which is one start point and fig.8D states "Choose any Pathway Endpoints." However when considered as a whole at least one start point and one endpoint is selected as the claimed data set.

Appellants state that Allen simulates pathways without referencing a data set of start points or endpoints of the pathway.

The examiner disagrees since fig. 2B:50 provides a check to determine if all endpoints have been reached.

Appellants state that Allen has not been shown to disclose a second data set of channels connecting the entities.

The examiner disagrees since Allen discloses pathways one of which is shown in fig. 9: "Textual Pathway" that describes how the entities such as GTP-Gs-alpha binds to or connect to other entities such as adenylyl cyclase.

Appellants state in view of the advisory action that the examiner does not provide any support that the claimed channels connecting the claimed entities claim mapped in the advisory action by the examiner to starting and end points are inherent features of the pathways of Allen.

The examiner has concluded that a pathway and channel are the same since both share the same features of directing movement in the intended direction of the channel or pathway.

Appellants state in view of the advisory action that the examiner provides no basis showing how an entity claim mapped to the points by the examiner is inherent feature of a pathway.

A pathway with a starting point and endpoint can be replaced with a pathway with the understanding of one of ordinary skill in pathways that the pathway has an inherent starting point and ending point.

Appellants state that the examiner does not discuss how an entity and a point are related.

The examiner has claimed mapped the claimed entity to be a point since an entity can be anything.

Appellants state in view of the advisory action that the examiner has not established that entities between which material or information is transferred are inherent features of a pathway.

The examiner disagrees since the entities or said points between which material or reactants is transferred via the mobility attribute are inherent features of a pathway since one of ordinary skill in the art of pathways will readily determine a start and end of a pathway.

Appellants state in view of the advisory action that the examiner provides no reasoning in fact on how a pathway includes channels connecting the entities.

The examiner disagrees since a pathway and channel share the same function of directing movement wherein the pathway is a description that describes connecting the entities which are the starting and end points.

Appellants state that Allen does not disclose a third data set of types of materials or information transferred by each entity.

The examiner disagrees since Allen teaches four attribute types in fig. 4B:221a-d of materials.

Appellants state that a physical interaction does not describe a type of material that each entity transfers via each channel.

The examiner disagrees since a physical interaction can broadly mean an interaction of two physical molecules that interact or bind to each other to transfer a portion of a molecule via said dissociation constant within a pathway or channel where the portion of the molecule is of the physical type since a physical interaction occurred as opposed to non-physical type or non-binding type where no physical interaction or no physical binding occurred.

Appellants state that the cited portion, column 1, lines 45-48, says nothing with respect to proteins being transferred through the pathways.

The examiner disagrees since a pathway suggests transferring in a path and a reaction of proteins that occurs in a pathway is transferring proteins in a path.

Appellants state that Allen has not been shown to teach creating a third data set of types of material or information that each entity transfers via each channel.

The examiner disagrees since Allen discloses an attribute type corresponding to the mobility attribute that describes an entity or reactant that transfers a portion via the dissociation constant of the reactant to another reactant in a pathway.

Appellants state that Allen does not disclose using the dynamic map in conjunction with the first, second and third data sets to perform a simulation.

The examiner disagrees since Allen uses said dynamic graphical display with pathways or animation of pathways created via a "Finish" button in fig. 8E:1005 originating from the interface of fig. 3 that includes "buttons" in col. 12, lines 25,26 associated with a simulation module in fig. 1A:10 from the first set or reactants of fig. 6F:4020 that is a list of reactants, second set or pathways of fig. 8A: "Choose a…Pathway" and third set or attribute types.

Appellants state that the examiner does not identify in the final Office Action other parts of Allen that teach a simulation.

The examiner disagrees since other parts such as fig. 15 that originated from fig. 3 that has "buttons" in col. 12, lines 25,26 associated with the simulation module.

Appellants state that Allen has not been shown to teach using the dynamic map in conjunction with the first, second, and third data sets to perform a simulation of the transfer of material between entities.

The examiner disagrees since Allen uses the dynamic map or said animation corresponding to figures 11 and 15 where the dynamic map is based on said first (fig. 6F:4020), second (fig. 9: Textual Pathway) and third data sets (said attribute types in fig. 4B: Select Attribute Type).

In addition, fig. 14 can be a map that describes which pathway to use from a plurality of pathways that is created from said first (fig. 6F:4020), second (fig. 9: Textual Pathway) and third data sets (said attribute types in fig. 4B: Select Attribute Type).

Note that the claimed limitation of "using the dynamic map in conjunction with the first, second, and third data sets **to perform a simulation of the transfer of material between entities (emphasis added)**" does not have an active step of "transfer" of material between entities. The claim is only simulating a transfer of data. The claim recites no positive steps of "transferring" any type of data. There is only a "simulation of the transfer". A figure with maps and pathways is cleary a simulation of the transfer. The limitation is explicitly using the map with all sets and does not clearly recite when to perform a transfer of material between entities. Thus, claim 1 can be practiced without a transfer of material between entities since claim 1 states outputting the simulation results which do not clearly provide what the results are.

Appellants state that Allen has not been found to disclose such pathways are simulated using:

a dynamic map that includes a list of active entities in conjunction with a first data set of entities between which material or information is transferred, a second data set of channels connecting the entities, and a third data set of types of materials or information that each entity transfers via each channel.

The examiner disagrees since Allen's pathways are simulated using a dynamic map (or said animation of figures 11 and 15 or static pathway in fig. 14 that shows pathways as a map would show) that includes a list of active entities (one of which is MEKK1 in fig. 14 that forms the basis for a reaction) in conjunction with a first data set of entities (as shown in fig. 5B that shows a list) between which material or information is transferred (corresponding to fig. 9 that transfers GTP-Gs-alpha from GTP-bound heterotrimeric Gs protein to adenylyl cycclase), a second data set of channels (as shown in fig. 14 that shows multiple pathways wherein one of which can be chosen corresponding to the pathway of fig. 9) connecting the entities (via a description of the pathway that describes binding reactants as shown in figures 9 and 14), and a third data set of types of materials or information (corresponding to fig. 9:adenosine that can be assigned an attribute type via fig. 4B: Select Attribute Type) that each entity (such as said GTP-bound heterotrimeric Gs protein) transfers (since said GTP-bound heterotrimeric Gs protein can be assigned a mobility attribute via fig. 6F:4030 and said dissociation constant) via each channel (since said GTP-bound heterotrimeric Gs protein moves via the mobility attribute in a chosen pathway as shown in fig. 9:Textual Pathway).

102(e) claims 14 and 16:

Appellants state that elapsed time does not comprise a lesion in a tissue.

The examiner disagrees since the elapsed time shows how long a lesion takes to appear in an animation of the lesion. Thus, the time broadly comprises a lesion.

Appellants state that the same element cannot be used to show two different features of a claim.

The examiner disagrees since the element JNK1 can be an active entity as JNK1 interacts in a reaction and is part of the inside of a body; thus, JNK1 can both be an active entity and an internal state of a body.

Appellants state that JNK1 of fig. 15 cannot represent an internal state of a spatially distributed object.

The examiner disagrees since JNK1 can be assigned attributes such as "mass" in col. 29, line 21 is an internal state that describes JNK1 with a "location" in col. 29, lines 27,28 attribute; thus, JNK1 represents the internal state of a spatial distributed object.

For the above reasons, it is believed that the rejections should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

Dennis Rosario

/Dennis Rosario/

Examiner, Art Unit 2624

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Matthew Bella

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